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FROM FIG. 45B

DOWNSTREAM  
EQUALIZATION

1120  
CU SENDS EQUALIZATION TRAINING  
DATA TO RU SIMULTANEOUSLY ON  
8 CHANNELS SPREAD ON EACH  
CHANNEL BY ONE OF THE FIRST  
8 ORTHOGONAL CYCLIC CODES  
MODULATED BY BPSK.

1130  
RU RECEIVER RECEIVES EQUALIZATION  
TRAINING DATA IN MULTIPLE  
ITERATIONS AND USES LMS 830,  
FFE 765, DFE 820 AND DIFFERENCE  
CALCULATION CIRCUIT 832 TO  
CONVERGE ON PROPER FFE AND  
DFE TAP WEIGHT COEFFICIENTS.

1132  
AFTER CONVERGENCE, CPU READS  
FINAL TAP WEIGHT COEFFICIENTS  
FOR FFE 765 AND DFE 820 AND  
~~LOADS THESE TAP WEIGHT~~  
~~COEFFICIENTS INTO FFE/DFE~~  
~~CIRCUIT 764~~; CPU SETS FFE 765  
AND DFE 820 COEFFICIENTS TO  
INITIALIZATION VALUES.

CONVOLVES THESE  
NEW FILTER TAP  
WEIGHTS WITH  
THE OLD FILTER  
TAP WEIGHTS  
OF THE FFE AND  
DFE FILTERS OF  
THE CE CIRCUIT 764.  
AND LOADS THE  
NEWLY CALCULATED  
TAP WEIGHTS  
INTO THE  
FFE AND DFE  
FILTERS OF  
THE CE CIRCUIT

54C  
FIG. 45C

53C

EQUALIZATION

CU SENDS MESSAGE TO RU TELLING IT TO SEND EQUALIZATION DATA TO CU USING ALL 8 OF THE FIRST 8 ORTHOGONAL CYCLIC CODES AND BPSK MODULATION.

RU SENDS SAME TRAINING DATA TO CU ON 8 DIFFERENT CHANNELS SPREAD BY EACH OF FIRST 8 ORTHOGONAL CYCLIC CODES.

CU RECEIVER RECEIVES DATA, AND FFE 765, DFE 820 AND LMS 830 PERFORM ONE ITERATION OF TAP WEIGHT(COEFFICIENT) ADJUSTMENTS.

TAP WEIGHT (COEFFICIENT) ADJUSTMENTS CONTINUE UNTIL CONVERGENCE WHEN ERROR SIGNALS DROP OFF TO NEAR ZERO.

AFTER CONVERGENCE DURING TRAINING INTERVAL, CU SENDS FINAL FFE AND DFE COEFFICIENTS TO RU.

CONVOLVES ~~RU SETS FINAL FFE & DFE~~ SE CIRCUIT WITH COEFFICIENTS INTO PRECODE FFE/DFE FILTER IN TRANSMITTER AND LOAD NEWLY

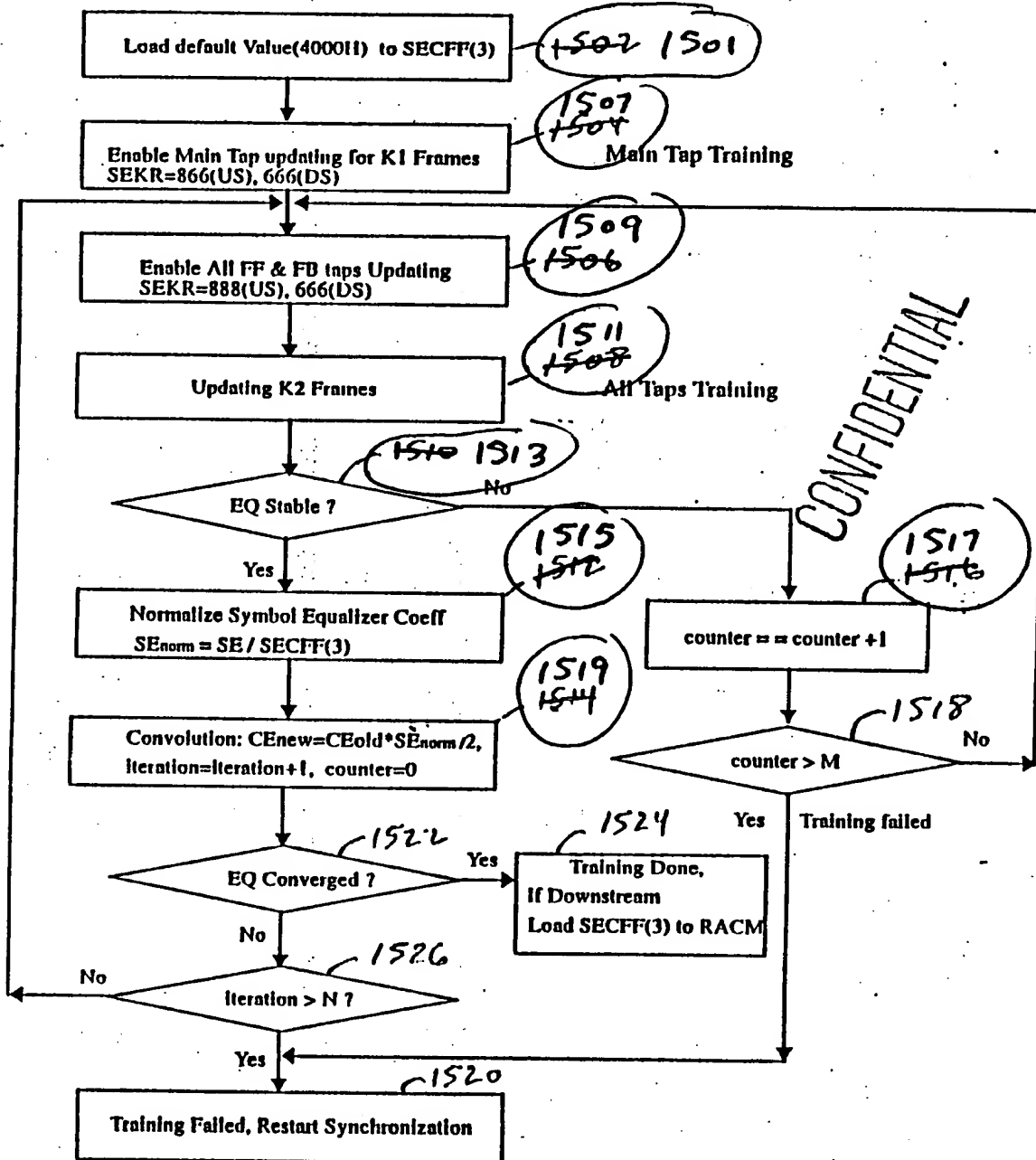
CU SETS COEFFICIENTS OF PFE 765 AND DFE 820 TO ONE FOR RECEPTION OF UPSTREAM PAYLOAD DATA.

TRANSPARENT VALUES

CALCULATED COEFFICIENTS INTO RU: XMTR PRECODE FILTER

FIG. 45B

# Initial 2-Step Training Algorithm



2-STEP INITIAL EQUALIZATION TRAINING  
FIG. 60